Honeywell

AVS
Audio Verification System

Installation and Setup Guide

K14860-3V2 12/12 Rev. B

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General Description

About the AVS

Compatibility Note: The AVS, when used in addressable mode, is compatible with controls having the following firmware versions:
VISTA-20P series = version 7.0 or higher; VISTA-21iP series = version 3.0 or higher; VISTA-15P series = version 6.0 or higher.

The Audio Verification System, comprised of a Base unit (AVS) and up to three Remote Stations (AVST), provides central station 2-way voice capability (AAV) by allowing the central station operator to listen and/or talk to individuals on premises following receipt of an alarm report from the premises' alarm system (excluding fire or carbon monoxide alarms). It is intended to work with compatible VISTA-15P series and VISTA-20P/VISTA-21iP series control panels.

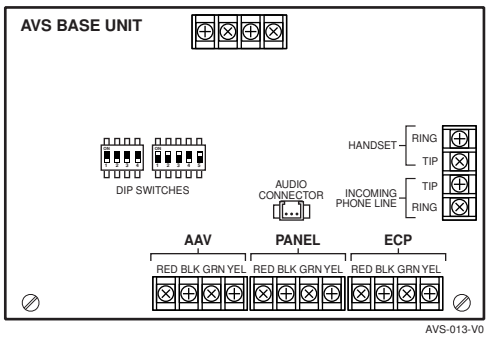
The Base unit serves as a central audio controller. In addressable mode, it establishes audio signal pathways between the incoming telephone line (or aGSMV4G or GSMX4G communication device) and Remote Stations via the control's ECP terminals (avoids need for trigger inputs). The Remote Station has a built-in microphone and speaker that sends audio signals to and receives audio signals from the Base unit. In addition, a keypad can be connected directly to a Remote Station via a 5-pin header, which avoids the need to home run the keypad wiring to the control.

The Base unit is powered from the control panel's auxiliary power output and in turn provides power and control signals to the remote stations (350mA each). When installed with the full complement of three remote stations, the system draws up to 1050mA plus the Base unit's 110mA in siren mode (see *Specifications* section for detailed current drains). If the control panel's output cannot supply this current, use a Listed Class 2 Power Supply rated 12VDC and minimum required current.

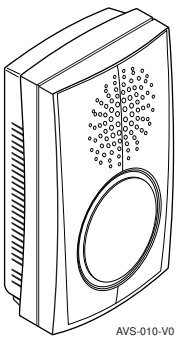
The system can provide appropriate burglary, fire, and carbon monoxide (if connected) alarm sounding at the remote stations during an alarm condition if the control is programmed to do so. However, during a voice session, the system sends a signal to the control (via a pre-programmed zone) to temporarily silence the bell, keypads, and remote station sounders (except during fire or carbon monoxide alarms). Alarm sounding resumes when the voice session is terminated.

The Base unit provides ECP terminals, which serve as connection points for keypads and other ECP devices (the Base unit should be the only ECP module connected to the control's ECP terminals; all other ECP devices connect to the Base unit's ECP terminals). In addition, an audio cable connector is provided for connection to a GSMV4G/GSMX4G communication device, if used.

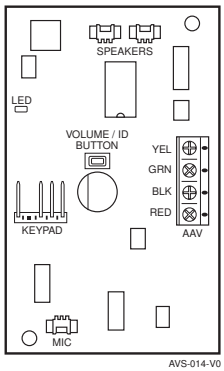
System options are set via a 4-position DIP switch. These options include voice session initiating mode (central station callback or panel trigger) and a program mode for programming the central station callback code. A 5-position DIP switch is used to set the module's device address.



Base Unit PC Board



Remote Station



Remote Station PC Board

System Operation

IMPORTANT: The Audio Verification System cannot be used if the control connects to the central station via the Internet.

Trigger Signal

After the control panel has transmitted its alarm report to the central station, the control sends CID code 606 to the central station and triggers the Base unit to initiate a voice session via the control's ECP connection. Once a voice session is started, the sirens are temporarily silenced (via a preset logical zone).

Trigger Response – Phone Line

The Base unit may be set, via DIP switch, to go off-hook immediately (panel trigger mode) or to open up a 5-minute callback window (callback mode) when a voice trigger signal is received from the control panel.

When panel trigger mode is selected, the system will immediately go off-hook after being triggered by the panel and will wait for the central station operator to enter a command, via a TouchTone telephone keypad, to control the voice session.

When Callback mode is selected, the system will open up a 5-minute callback window after being triggered by the panel. During this 5-minute window, the system will go off-hook when it detects a single telephone ring and will wait for the central station operator to enter a valid access code, via a TouchTone telephone keypad, before starting the voice session. The control holds the phone off-hook and connected to the central station for 5 minutes. Each subsequent command by the central station operator extends the off-hook time 5 minutes.

GSMV4G/GSMX4G Operation

If 2-way voice is programmed (at the control) to occur over the GSMV4G/GSMX4G communication link, the AVS module must be set for panel trigger mode. After an alarm report is sent, the system opens a 2-minute callback window to allow the central station operator to call the GSMV4G/GSMX4G module phone number. When the call to the module connects to the control, the system automatically begins a voice session in Listen mode. The central station operator can then control the voice session using TouchTone commands.

TouchTone Commands for Voice Operation

Following receipt of an alarm report from the premises' alarm system, the central station operator can enter various commands from a TouchTone telephone keypad to control the voice session to listen and/or talk to individuals at the premises. These commands are summarized in the *Basic Operating Guide* section.

Mounting the AVS Base Unit

As shipped, the AVS Base unit board comes pre-mounted on its mounting bracket, which is designed to mount inside the control panel cabinet.

Refer to the diagram below.

a. Position the mounting plate/PC board assembly in the bottom of the control's cabinet.
b. Slide the mounting plate to the right so that the plate's left-hand tang slides under the cabinet's tie-wrap loop.
c. Secure the assembly to the cabinet using the two self-tapping screws provided.
d. Mount the control's PC board if not already mounted; follow the control's instructions for mounting the board (and optional RF Receiver board, if used).

BATTERY NOTE: When using a 7AH battery, mount the battery vertically on the bottom left-hand side of the cabinet, with the terminals facing down and right (negative terminal closest to the PC board bracket).

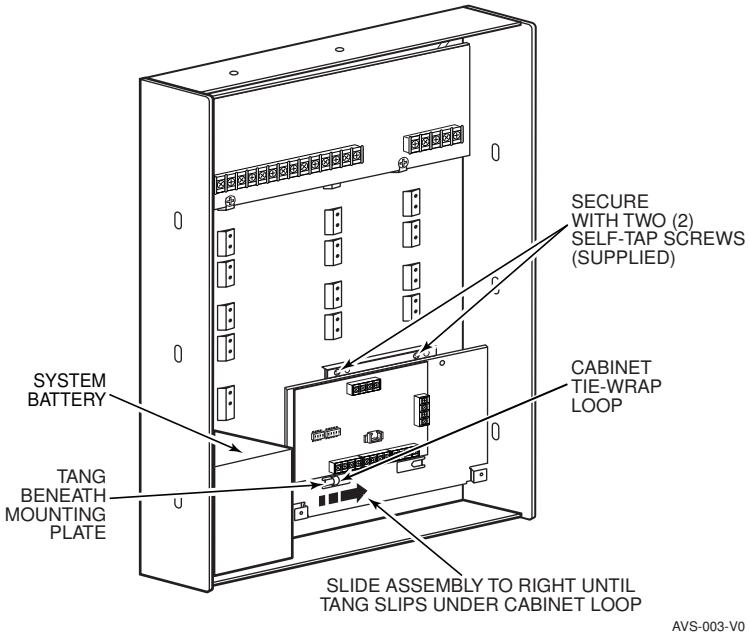


Figure 1. Installing the AVS Base Unit and Mounting Plate

Mounting the AVST Remote Stations

Stations must be mounted indoors. These stations are designed to be surface mounted to a flat interior surface or to a single-gang electrical box, typically adjacent to a keypad.

The stations provide ECP terminals for ease in wiring the keypad directly from a station without having to run an ECP cable from the control panel to the keypad.

Select an appropriate location that permits unobstructed sound pickup by the station's microphone over as large an area as possible. Avoid positioning the station near forced-air ventilator ducts, fans, air conditioners, etc. that generate sounds that can interfere with sound pickup. Avoid corners and narrow passageways that create strong speaker reflections that can interfere with voice operation.

Refer to the instructions accompanying the Remote Stations for specific mounting procedures.

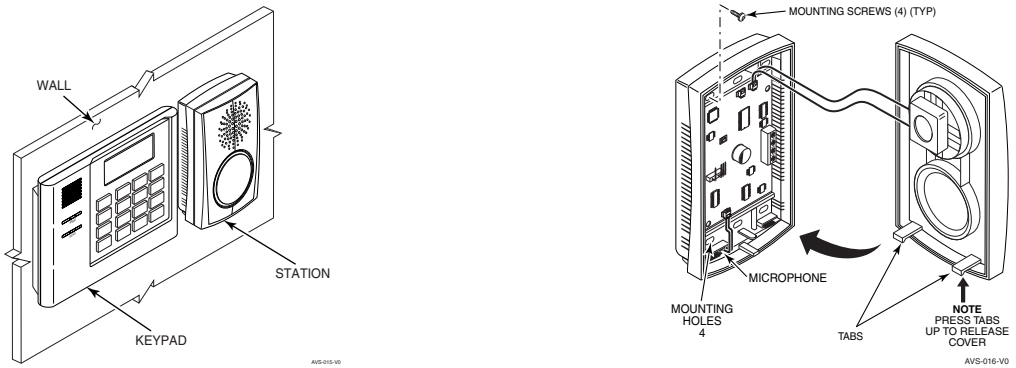


Figure 2. AVST Remote Station Mounting

Wiring the System

The AVS Base unit board has several terminal blocks for making connections to remote stations, telephone lines, and to the control panel. Refer to the Programming section for information on setting the AVS DIP switches.

Wiring for Controls Compatible with AVS Addressable Mode

NOTE: This configuration supports AAV over the phone line or via a GSMV4G module.

To use the AVS in non-addressable mode, set the module to address 8 (V15P) or 11 (V20P/V21iP). See the Programming section for details on setting the address.

Refer to the diagram on the next page for specific wiring connections.

a. **ECP Connection:** Using the red, black, green and yellow wires, connect the ECP terminals from the control (ground, aux, data in, data out) to the Panel terminals on the AVS base unit. Connect all other control panel ECP devices (keypads, expander modules, etc.) to the ECP terminals on the AVS board.

> **IMPORTANT:** The AVS should be the only ECP device connected to the control's ECP terminals. Also note that ECP devices draw power from the control. Make sure the current drain of connected ECP devices does not exceed the control's maximum.

b. **Phone Line Connection:** (use a Direct Connect cord)
   - Connect red and green wires to the control's Incoming Phone Line terminals.
   - Connect brown and gray wires to the base unit's Handset terminals.
   - Connect the control's Handset terminals to the base unit's Incoming Phone Line terminals.

GSMV4G/GSMX4G Module Connection (if used)

NOTE: A GSMV4G/GSMX4G module can be used for AAV only with controls compatible with the AVS addressable mode.

a. If using a GSMV4G/GSMX4G module for 2-way voice operation, install the module according to its instructions. **NOTE:** The module must be mounted within three feet of the control.

b. Connect the audio cable (not supplied) from the GSMV4G/GSMX4G module to the Audio connector on the AVS board.

c. Complete all other GSMV4G/GSMX4G wiring following the instructions included with that module.

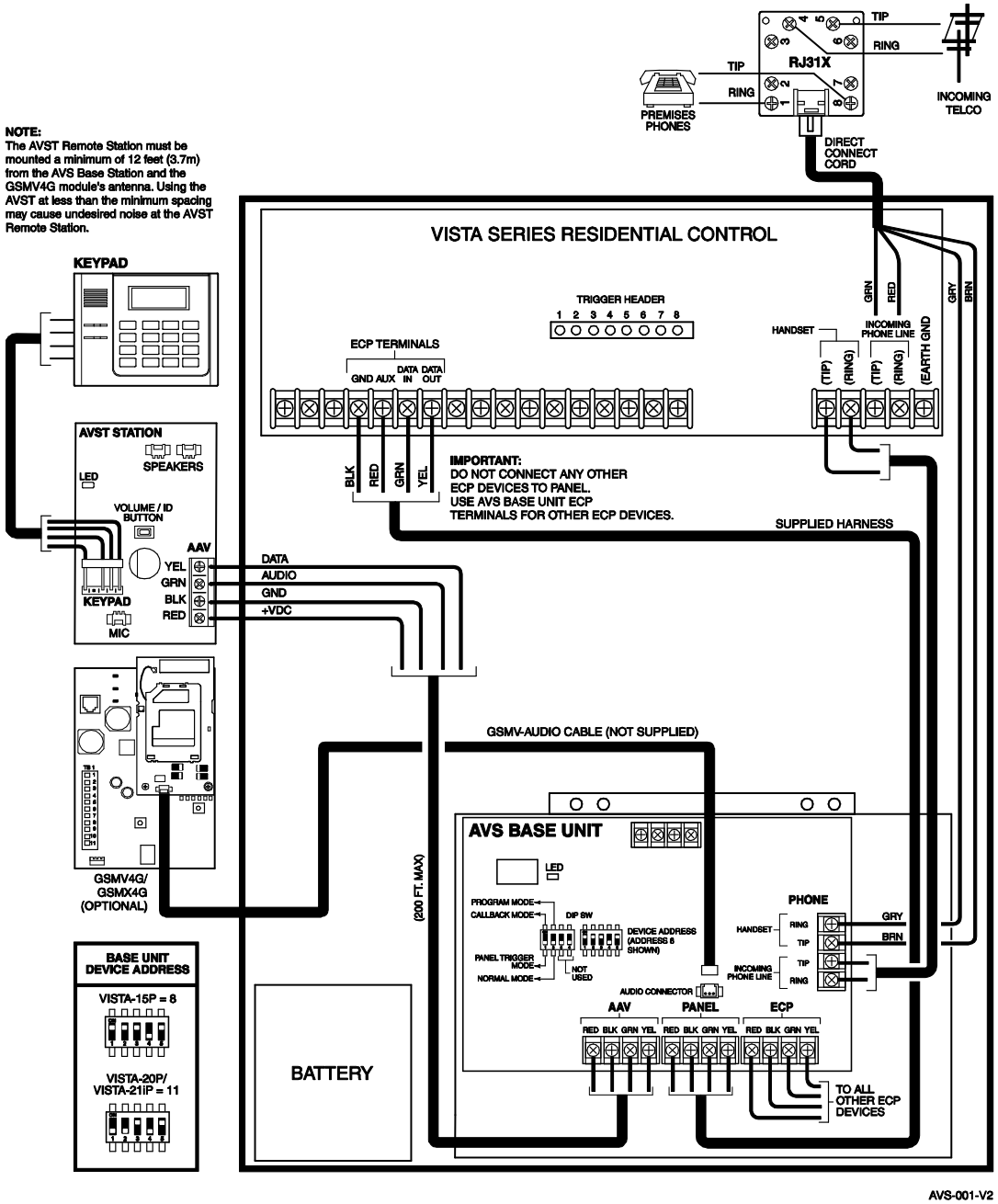


Figure 3. Connections for Controls Compatible with the AVS Addressable Mode

Remote Station Wiring

The AVST Remote Station board has a 4-position terminal block for making connections to the base unit. Maximum home run wire length is 200 feet.

a. Mount the Station according to its instructions.

b. Connect the base unit's AAV terminals to the station's AAV terminals, routing the wires through a cabinet knockout and through the opening in the station's case or side cutout.

c. If connecting an adjacent keypad to the station, connect the station's keypad header to the keypad's connection terminals.

NOTE: If using more than one remote station, an external power supply must be used to power the additional stations. Refer to the diagram below for connections.

Multiple Remote Station Wiring

If used, the second and third remote stations must be powered from the separate power supply, Honeywell No. AD12612. The power supply must be installed in the control panel cabinet together with the battery, which is rated not less than 7.2Ah, when used for Residential Fire Alarm Installation.

Wiring connections are shown below.

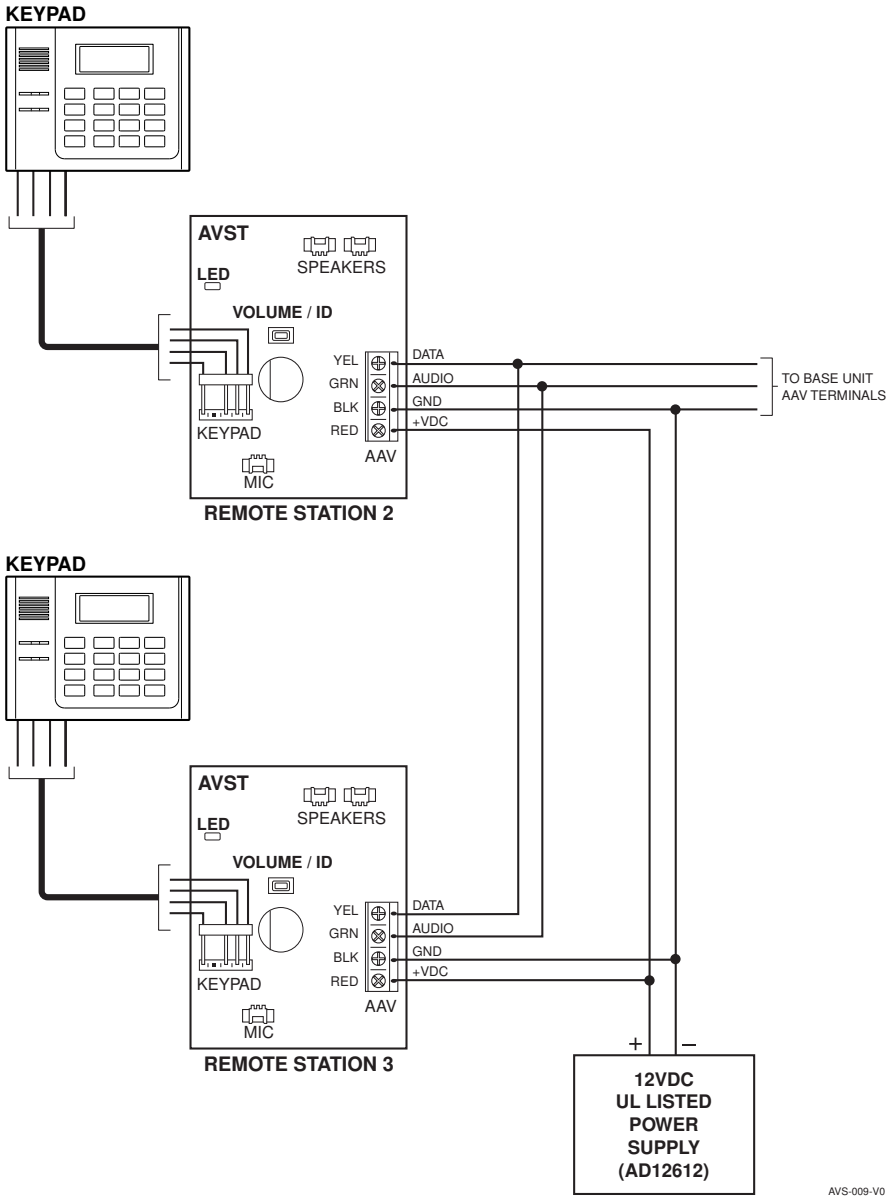


Figure 4. Wiring Connections for Multiple Remote Stations

Wiring for Controls Not Compatible with AVS Addressable Mode

IMPORTANT: This configuration supports AAV over the phone line only; it does not support AAV via a GSMV4G/GSMX4G module.

To use the AVS in non-addressable mode, set the module to address 31 (all switches off).

Refer to the diagram on the next page for specific wiring connections.

Base Unit to Panel Wiring

For steps a-c, use a 6-wire harness (these steps use the colors red, black, green, yellow, orange, and brown for reference).

a. **ECP Connection:** Using the red, black, green and yellow wires, connect the ECP terminals from the control (ground, aux, data in, data out) to the Panel terminals on the AVS base unit. If desired, other control panel ECP devices (keypads, expander modules, etc.) can be connected to the ECP terminals on the AVS board.

b. **Bell Connection:** Using the orange wire, connect the control's Bell Output to the *Bell* terminal on the base unit.

c. **Monitor (Feedback) Zone:** Using the brown wire, connect the desired voice session monitor zone "+" terminal to the base unit's *Feedback (FB Out)* terminal.

For steps e-f, use a standard 4-wire keypad connector harness (N4632-4).

e. **Trigger:** Plug the harness connector onto the control's trigger pins so that the yellow wire is at the left-hand end (output 17), then connect the yellow wire to the Base unit's *Trigger In* terminal.

f. **CO (carbon monoxide) Trigger:** If used, connect the green wire (trigger output 18) to the base unit's *CO* terminal.

For step g, use a Direct Connect cord (part no. 620).

g. **Phone:**
- Connect red and green wires to the control's *Incoming Phone Line* terminals.
- Connect brown and gray wires to the base unit's *Handset* terminals.
- Connect the control's Handset terminals to the base unit's *Incoming Phone Line* terminals.

Base Unit to Station Wiring

See Remote Station Wiring section described earlier for connections to the remote station.

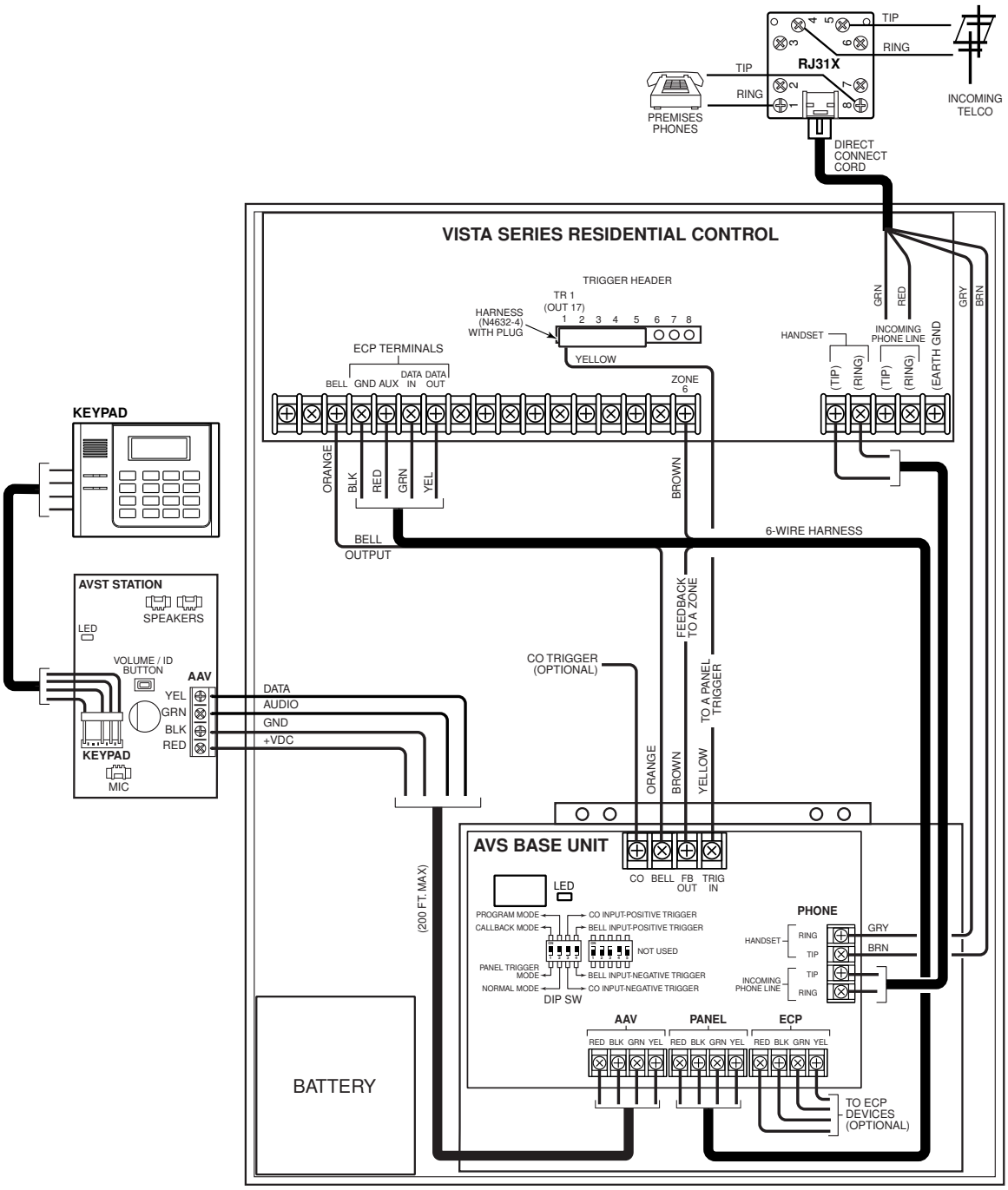


Figure 5. Connections for Controls <u>Not Compatible</u> with the AVS Addressable Mode

General Information

Programming the system involves the following:
- Program the control for AAV operation
- Set the Base Unit DIP switches for device address and the appropriate functions
- Program the Remote Station ID addresses
- Adjust the Remote Station volume.

Programming When Used with Controls Compatible with AVS Addressable Mode

Programming the Control

1. Program the control panel according to the instructions in its Installation and Setup Guide.
2. Enable the AVS operation by setting data field *91 for AAV operation.
3. Use one of the control's AVS Quick Program commands as follows:
   - installer code + [#] + 0 + 3: enable AVS operation without panel sounds on the AVST speaker
   - installer code + [#] + 0 + 4: enable AVS operation and enable panel sounds on the AVST speaker

   IMPORTANT: When either Quick Program command is used, certain output functions (*80 mode) and output relays (*79 mode) are automatically programmed and are no longer available for other control panel purposes. In addition, protection zone 24 and device address 08 are automatically programmed for AVS operation with the V15P and protection zone 48 and device address 11 are automatically programmed for AVS operation with the V20P/V21iP and are not available for other purposes. Refer to the control's instructions for details of the automatically programmed functions.

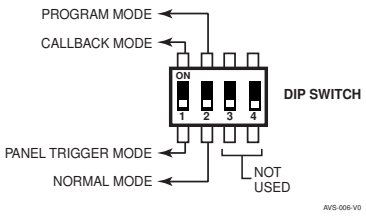
   To undo the Quick Command programming, use the following commands:
   - installer code + [#] + 0 + 5: remove all options that were set if [#] + 03 quick command was performed
   - installer code + [#] + 0 + 6: remove all options that were set if [#] + 04 quick command was performed
4. Use data field *55 Dynamic Signaling Priority to select the desired reporting paths (phone line and/or GSMV4G/GSMX4G) and path for AAV communication. Refer to the control's instructions for details of this field.

Programming the AVS (via the DIP Switches)

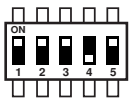
There are two DIP switches on the base unit. The 4-position switch sets the module's mode; the 5-position switch sets the module's device address (identifies the module to the control panel). Switches in the up position are ON (ON is marked on the switch housing). Switches in the down position are OFF.

Refer to the diagram below and set the DIP switches as required.

Mode DIP Switch:

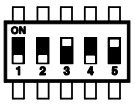


Device Address DIP Switch (identifies the module to the control)**:**



DIP SETTING FOR DEVICE ADDRESS 8 (VISTA-15P SERIES)

AVS-007-V0



DIP SETTING FOR DEVICE ADDRESS 11 (VISTA-20P/ VISTA-21IP SERIES)

AVS-008-V1

ADDRESSABLE MODE SETTINGS:

VISTA-15P Series
DIP Setting for Device Address 8

1	2	3	4	5
ON	ON	ON	off	ON

VISTA-20P/VISTA-21iP Series
DIP Setting for Device Address 11

1	2	3	4	5
off	off	ON	off	ON

Mode DIP Switch Settings:

SW	FUNCTION	ON	OFF
1	Callback mode / Panel Trigger mode	Callback mode: Central Station calls panel to initiate voice session. Applies to phone line connection only.	Panel Trigger: Voice session starts automatically following delivery of alarm report. Must be used for GSMV4G/GSMX4G operation.
2	Program mode (for callback code) / Normal mode	Program Mode: Set switch to ON to program the callback code.	Normal mode: Set switch to OFF when programming of callback code is complete.

Programming the Central Station Callback Code

The callback code applies to the phone line only. A central station callback code is required if the system is set for Callback mode operation. Use the following steps to program the central station callback code (default code = 123456).

1. Set DIP switch 2 to the ON position to enable Callback code programming mode. The system will generate a beep every 10 seconds at remote stations to indicate this mode is enabled.
2. Have the central station operator call the premises. The system will go off-hook after it detects a single telephone ring. It will issue a continuous command-prompt beep to the operator indicating that it is waiting for a 6-digit access code to be entered. If no code digits are entered within 10 seconds, the system will hang up.
3. Have the central station operator enter a 6-digit access code. After the system has detected the access code, it will issue a single beep to the operator indicating that it is ready for the central station operator to re-enter the code for confirmation.
4. Have the central station operator re-enter the code. If the two entered codes match, the system will issue two beeps and then hang up. The system will issue an error tone (high-frequency beep followed by a low-frequency beep) if both codes do not match or if an invalid key is pressed. In these cases, the system will clear all previously entered digits and wait for a new code to be entered.
5. After the code has been properly programmed, reset DIP switch 2 to the OFF position to disable callback code programming mode. The system will stop generating beeps at inside remote stations.

IMPORTANT: Avoid programming an access code that ends with the digits "1" or "2". This will prevent the system from unexpectedly entering Talk or 2-way conversation modes when the last digit of the access code is accidentally pressed twice while entering the code to start a voice session.

Programming AVST Remote Stations

After the AVS Base Unit board has been installed and after all wiring has been completed, apply power to the Base Unit. The Base Unit will automatically determine which stations have been installed. This enables operation of the microphone and speaker on all installed stations.

Setting the Station Identification (ID)

Up to three stations may be used in a system. If using only one remote station, the default station ID can be used and no setting of the ID is required. If using more than one station, each station must have a unique station ID in order for the central station operator to be able to select a particular station during a voice session†. Station IDs range from 1-3 (default = 1) and are separate from and do not affect control panel ECP device addresses.

† Multiple stations with the same ID will not be individually selectable by the central station operator. Instead, the stations will all be active at the same time.

To check a station's current ID, press and release the Volume/ID button while the system is in normal operating mode. The green LED flashes the number of times corresponding to the station's ID from 1-3. (ex. three flashes indicate the station is set for ID 3).

To change a station's ID, do the following:

1. Press and hold the volume/ID button until the LED begins flashing (about 2 seconds, less than 5 seconds), then release the button.
2. Enter the new ID by pressing the button the number of times corresponding to the desired ID from 1 – 3. (Ex. Press the button three times for ID 3).
3. After entering the ID, watch the station's LED. It will flash the number of times corresponding to the entered ID to confirm the entry. Once the LED flashes the ID, the station returns to normal mode. To see the ID flashed again, press and release the Volume/ID button.

Adjusting Speaker Volume for Stations

To adjust the speaker volume, press and hold the Volume button for more than 5 seconds until the desired level is reached, then release the button. While the button is held down, the volume will increase or decrease until its maximum or minimum is reached.

To adjust the volume in the reverse direction, release, then press and hold the Volume button again until the desired level is reached.

Repeat this procedure for all remaining stations.

Programming When Used with Controls Not Compatible with AVS Addressable Mode

Programming the Control

1. Program the control panel according to the instructions in its Installation and Setup Guide.
2. Enable the AVS operation by setting data field *91 for AAV operation.
3. Use *80 Menu mode to program the connected AAV trigger output (output 17) and, if used, CO trigger output (output 18) as follows:

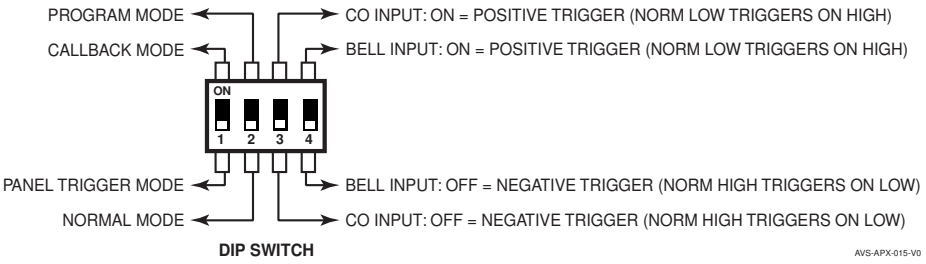
   Output 17 for AAV trigger:
   zone type (ZT) = 60 (AAV), partition (P) = 0, action = 1 (close for 2 seconds), device = 17.

   Output 18 for CO trigger (requires two output functions):
   to activate: zone type (ZT) = 14 (CO), part. (P) = 0, action = 2 (stay closed), device = 18.
   to deactivate: zone type (ZT) = 22 (disarm, code + OFF), part. (P) = 0, action = 0 (off), device = 18.
4. Use *56 Menu mode to program the appropriate voice session monitoring zone as follows (zone 6 recommended): zone type = 81; hardwire type = 2 (NO, normally open)

Setting Base Unit DIP Switch Options

Use the 4-position DIP switch to select various installation options. The 5-position DIP switch is not used and should be set to all switches OFF. The functions of the 4-position switches are described below. Switches in the up position are ON (ON is marked on the switch housing). Switches in the down position are OFF.

Refer to the diagram below and set the DIP switches as required.


PROGRAM MODE
CALLBACK MODE
CO INPUT: ON = POSITIVE TRIGGER (NORM LOW TRIGGERS ON HIGH)
BELL INPUT: ON = POSITIVE TRIGGER (NORM LOW TRIGGERS ON HIGH)
ON
1 2 3 4
PANEL TRIGGER MODE
NORMAL MODE
BELL INPUT: OFF = NEGATIVE TRIGGER (NORM HIGH TRIGGERS ON LOW)
CO INPUT: OFF = NEGATIVE TRIGGER (NORM HIGH TRIGGERS ON LOW)
DIP SWITCH
AVS-APX-015-V0

DIP Switch Settings:

SW	FUNCTION	ON	OFF
1	Callback mode / Panel Trigger mode	Callback mode	Panel Trigger
2	Program mode (for callback code) / Normal mode	Program Mode	Normal mode
3	Carbon Monoxide (CO) + / – trigger input	+ positive trigger	– negative trigger
4	Bell + / – trigger input	+ positive trigger	– negative trigger

NOTES:

Callback Mode: Central Station calls panel to initiate voice session.

Panel Trigger Mode: Voice session starts automatically following delivery of alarm report.

Program Mode: Set switch to ON to program the callback code.

Normal Mode: Set switch to OFF when programming of callback code is complete.

Trigger Inputs: Trigger Inputs: Positive trigger is normally low and triggers when signal goes high. Negative trigger is normally high and triggers when signal goes low.

Central Station 2-Way Voice Operation

The system allows a central station operator to listen and/or talk to individuals at the premises via the remote stations following receipt of an alarm report from the premises' alarm system. This allows the operator to gather information about the nature and locations of the alarm that may be helpful to the responding police or rescue departments. The system works in conjunction with the premises alarm system and is controlled by the central station operator; it does not require any manual intervention by the end user.

When using the phone line, the system can be set (via DIP switch) to initiate voice sessions in one of two modes: Panel Trigger mode or Callback mode. When using a GSMV4G connection, the system must be set for Panel Trigger mode. These modes are described in the later paragraphs.

Once connected to the premises, there are three voice-operating modes that the central station operator can select via TouchTone telephone key presses.

Two-Way Voice Modes

Mode	Description
Talk	Allows central station operator to talk through all remote stations simultaneously or through one selected remote station.
Listen	Allows central station operator to listen through all remote stations simultaneously or through one selected remote station.
2-Way Voice	Allows central station operator to hold a hands-free conversation with individuals at all remote stations simultaneously or at one selected remote station.

NOTE: High ambient noise levels at the central station may affect system operation during a voice session.

IMPORTANT: The Control Panel initiates a voice session by providing a trigger signal to the AVS Base unit following various alarm reports. Make sure that the end user is fully aware of all conditions that lead to a voice session.

Starting in Panel Trigger (Immediate) Mode – Phone Line

When using phone line 2-way voice communication and the control is set for Panel Trigger mode, the system does the following:

Panel Trigger Mode

Stage	What Happens	
1	After an alarm report is sent, the system immediately goes off-hook in response to a trigger from the control panel and starts a voice session in Listen mode (station microphone is active but the speaker is disabled).	
2	System issues a slow dual tone at the central station phone indicating that it is waiting for the operator to enter a TouchTone command from the telephone keypad to control the voice session. The green LED on the Base unit flashes twice.	
3	***If…***	***then…***
	a command is detected	system will continue the voice session on low-volume Listen mode for 5 minutes.
	a command is not detected within 5 minutes	system will hang up and go back to waiting for another voice trigger. At 60 seconds and again at 30 seconds before ending the window, the system issues two beeps at the central station phone as warning. Any command from the central station operator extends the session another 5 minutes.

Starting in Callback Mode – Phone Line

When using phone line 2-way voice communication and the control is set for Callback mode, the system does the following:

Callback Mode

Stage	What Happens	
1	After an alarm report is sent, the system opens a 5-minute callback window in response to a trigger from the control panel to allow the central station operator to call the panel.	
2	System goes off-hook when it detects a single telephone ring within this window, and issues a continuous command-prompt beep to the caller indicating that it is waiting for the caller to enter a 6-digit callback access code.	
3	***If…***	***then…***
	a valid access code is detected	system will start the voice session in low-volume Listen mode. The green LED on the Base unit flashes twice. Control holds the phone off-hook and connected to central station for 5 minutes. Each subsequent command by the central station operator extends the off-hook time 5 minutes.
	• no keys are detected in 10 seconds • keys are detected but a valid code is not detected within 5 minutes • system detects that three unsuccessful attempts were made to enter the code	system will hang up. After the hang-up, system will continue timing out the original 5-minute callback window.

Starting with a GSMV4G/GSMX4G Connection

When using GSMV4G/GSMX4G 2-way voice communication and the control is set for Panel Trigger mode, the system does the following:

GSMV4G/GSMX4G Operation

Stage	What Happens	
1	After an alarm report is sent, the system opens a 2-minute callback window in response to a trigger from the control panel to allow the central station operator to call the GSMV4G/GSMX4G module phone number.	
2	When the call to the module connects to the control, the system automatically begins a voice session in Listen mode (station microphone is active but the speaker is disabled) and waits for the operator to enter a TouchTone command from the telephone keypad to control the voice session.	
3	***If…***	***then…***
	a command is detected	the system will continue the voice session on low-volume Listen mode for 5 minutes. Each subsequent command by the central station operator extends the voice session 5 minutes.
	a command is not detected within 5 minutes	the system will hang up and go back to waiting for another voice trigger. At 60 seconds and again at 30 seconds before ending the window, the system issues two beeps at the central station phone as warning. Any command from the central station operator extends the session another 5 minutes.

Listen Mode Volume

After the central station operator enters the required commands, the system will start the voice session in low-volume Listen mode. The operator may repeatedly enter the "3" command to cycle the listen-in volume from low to mid to high volume and back to low volume again. If high or mid volume is selected, the system will cycle between the selected high or mid volume (for 15 seconds) and low volume (for 3 seconds) until the operator changes the volume, changes the mode, or terminates the session. This is done to allow the operator to re-enter commands in low volume (as signaled by a noticeable drop in sound level) should loud premises sounds interfere with command detection in high or mid volume, causing the system to not respond.

Ending a Voice Session

The central station operator can terminate the voice session using either the "88" or "99" command. The system will automatically terminate the voice session 5 minutes after it started unless the operator enters the "7" command (or another command) to reset this timeout. The system will issue two beeps with 60 seconds remaining and again with 30 seconds remaining in the 5-minute timeout window.

Base Unit LED Functions

The LED on the Base unit indicates the following functions:

Steady On	Base unit is powered; normal mode
Off	phone ringing for callback
Rapid Flash	Program mode: waiting for callback code entry
Slow Flash	2-Way Voice mode
Double Flash	Listen mode or Talk mode

Voice Session Commands

The following commands can be entered from a telephone keypad to control the voice session.

Telephone Key Commands

Key	Function
1	Selects high-volume Talk mode. When first pressed, you can talk through all installed inside stations simultaneously. You may then elect to talk through one specific station by entering the "4" or "✶8n" command.
2	Selects 2-way voice mode. When first pressed, you can hold a hands-free conversation with individuals at all installed inside stations simultaneously. You may then elect to hold a hands-free conversation with individuals at one specific station by entering the "4" or "✶8n" command.
3	Selects Listen mode. When first pressed, you can listen through all installed inside stations simultaneously using low-volume Listen mode. Subsequent depressions of this key will cycle the volume from low volume to mid volume to high volume and then back to low volume. You may then elect to listen through one specific station by entering the "4" or "✶8n" command.
4	Selects next inside station. When first pressed, the system deactivates all inside stations except the lowest numbered one while maintaining the previously selected Talk, Listen, or 2-way voice mode. Subsequent depressions of this key will activate the next inside station in numerical sequence (or jump from the highest numbered station to the lowest numbered one) while deactivating the previously active station. The system will automatically skip over stations that are not installed. You can use the "0" command to select Listen mode with all installed inside stations re-enabled.
7	Re-initializes 5-minute voice session timeout. The system automatically ends the voice session 5 minutes after it started unless the "7" command (or one of the other commands) is entered to re-initialize the timeout.
0	Switches from presently active mode to Listen mode with all installed inside stations enabled and with low volume selected.
#	Used to clear an initially incorrect key press when multiple commands such as "99" or "✶8n" are being entered so that a corrected command can be entered. Also used as a backspace key to clear any incorrect access code digits so that a correct code can be entered.
99	Ends voice session.
✶8n	Selects station number "n" where "n" ranges from 1 to 3. When pressed, the system deactivates all but the selected inside or outside station while maintaining the previously selected Talk, Listen, or 2-way voice mode. NOTE: The system will go to the selected station even if this station is an outside station or if this station is not installed (nothing will be heard in Listen or 2-way voice mode). You can use the "0" command to select Listen mode with all inside stations enabled.
✶	Starts voice session in low-volume Listen mode (immediate mode only. Entry of valid access code starts the session in callback mode.)
88	Ends voice session, but opens 5-minute callback window (applicable for phone line connection only; not applicable for GSMV4G/GSMX4G connection to panel).

System Specifications

AVST Remote Station Ratings	
Operating Voltage	12VDC
Current Drain	50mA idle 200mA audio mode (AVST) 290mA Siren mode(AVST)
Wire Run Length	Homerun 22AWG, 4-conductor cable back to AVS, 200 feet maximum.
Temperature Range	14°F to 140°F (-10°C to +60°C)
AVS Base Unit Ratings	
Operating Voltage	12VDC
Current Drain	110mA plus the current drawn by the remote stations.
AVST	Supports up to three AVST Remote Stations. **NOTE:** If used, the second and third remote stations must be powered from the separate power supply, Honeywell No. AD12612. The power supply must be installed in the control panel cabinet together with the battery, which is rated not less than 7.2Ah, when used for Residential Fire Alarm Installation.
AVST Power Fusing	Solid-state current limiting on remote station connections.
Voice Triggers	Supports rising-edge or falling-edge triggers, 5V threshold. Rising edge input has 100k ohm pull-down to ground. Falling edge input has 100k ohm pull-up to 12VDC.
Alarm Trigger	Continuous high input produces steady, dual-tone sound; and pulsing high input produces pulsing sound on remote stations, 6V threshold with 200k ohm pull-down to ground.
Ringer Equivalence	1.0B
FCC Registration No.	AC3 USA-40133-SP-T

Telephone Service Advisory

In the Event of Trouble with Regular Telephone Service

In the event of trouble with regular telephone service, disconnect the phone lines at the Base unit.

If the regular phone works correctly after the lines have has been disconnected from the Base unit, the Base unit has a problem and the faulty unit should be returned for repair. If, upon disconnection of the phone lines, there is still a problem on the line, the Telephone Company should be notified that it has a problem and that prompt repair service is needed.

IMPORTANT: If the phone service is at fault in the test above, re-connect the phone lines immediately; if the Base unit is at fault, re-connect the phone lines as soon as the Base unit is repaired, because the system relies on this connection for communication with the central monitoring station.

The user may not under any circumstances (in or out of warranty) attempt any service or repairs to the system. It must be returned to the factory or an authorized service agency for all repairs.

FEDERAL COMMUNICATIONS COMMISSION & INDUSTRY CANADA STATEMENTS

The user shall not make any changes or modifications to the equipment unless authorized by the Installation Instructions or User's Manual. Unauthorized changes or modifications could void the user's authority to operate the equipment.

CLASS B DIGITAL DEVICE STATEMENT

This equipment has been tested to FCC requirements and has been found acceptable for use. The FCC requires the following statement for your information:

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- If using an indoor antenna, have a quality outdoor antenna installed.
- Reorient the receiving antenna until interference is reduced or eliminated.
- Move the radio or television receiver away from the receiver/control.
- Move the antenna leads away from any wire runs to the receiver/control.
- Plug the receiver/control into a different outlet so that it and the radio or television receiver are on different branch circuits.
- Consult the dealer or an experienced radio/TV technician for help.

INDUSTRY CANADA CLASS B STATEMENT

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

FCC / IC STATEMENT

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

Cet appareil est conforme à la partie 15 des règles de la FCC & de RSS-210 des Industries Canada. Son fonctionnement est soumis aux conditions suivantes: (1) Cet appareil ne doit pas causer d'interférences nuisibles. (2) Cet appareil doit accepter toute interférence reçue y compris les interférences causant une réception indésirable.

FEDERAL COMMUNICATIONS COMMISSION (FCC) PART 68 STATEMENT

This equipment complies with Part 68 of the FCC rules. On the front cover of this equipment is a label that contains, among other information, the FCC registration number and ringer equivalence number (REN) for this equipment. If requested, this information must be provided to the telephone company.

The REN is used to determine the quantity of devices that may be connected to the telephone line. Excessive RENs on the telephone line may result in the devices not ringing in response to an incoming call. In most but not all areas, the sum of the RENs should not exceed five (5.0). To be certain of the number of devices that may be connected to the line, as determined by the total RENs, contact the telephone company to determine the maximum REN for the calling area.

If this equipment causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. If advance notice is not practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

The telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the operation of the equipment. If this happens, the telephone company will provide advance notice in order for you to make the necessary modifications in order to maintain uninterrupted service.

If trouble is experienced with this equipment, please contact the manufacturer for repair and warranty information. If the trouble is causing harm to the telephone network, the telephone company may request that you remove the equipment from the network until the problem is resolved.

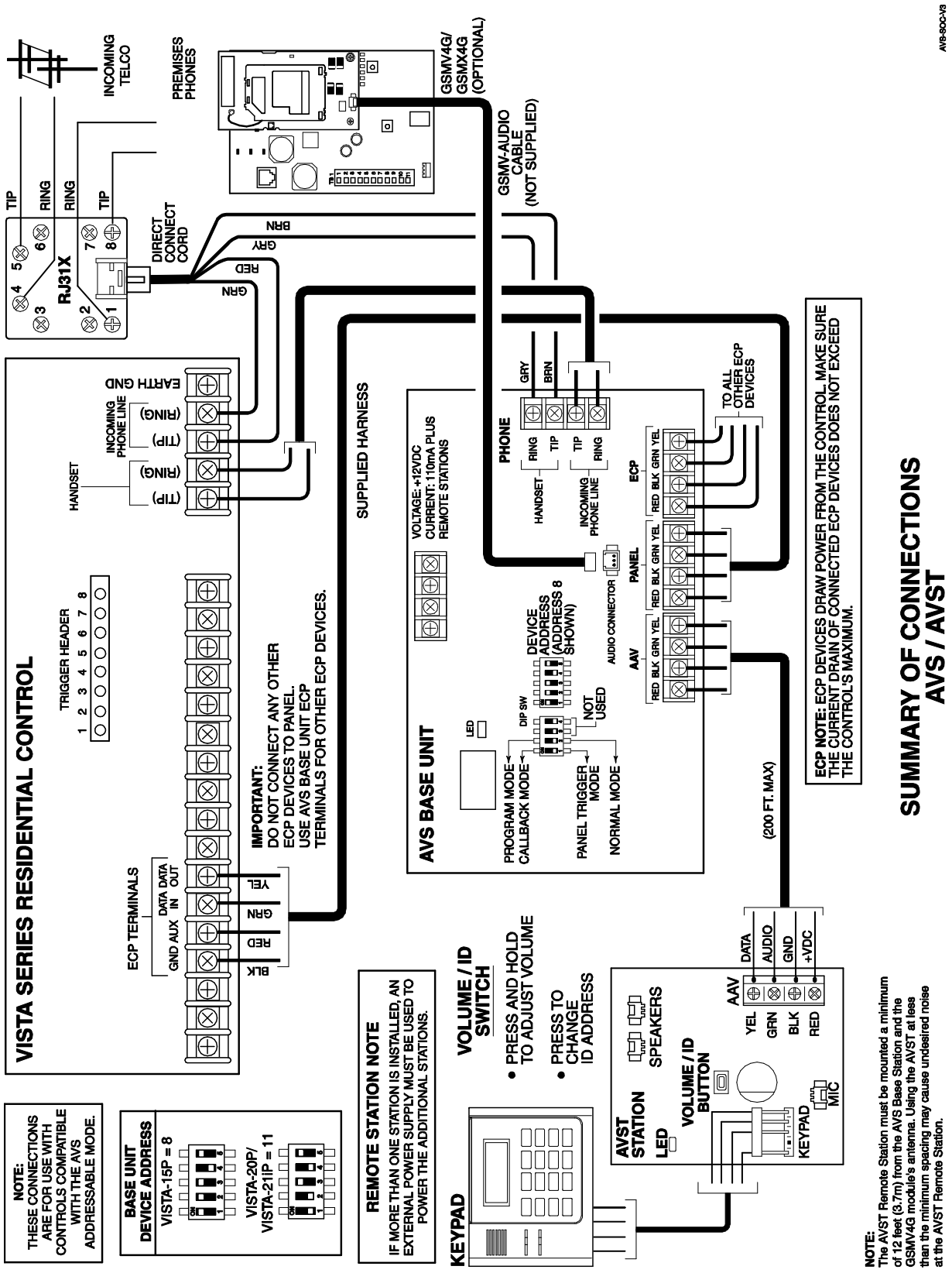
There are no user serviceable components in this product. The manufacturer must make all necessary repairs to this product. Other repair methods may invalidate the FCC registration on this product. This equipment cannot be used on telephone company-provided coin service. Connection to Party Line Service is subject to state tariffs. This equipment is hearing-aid compatible.

When programming or making test calls to an emergency number, briefly explain to the dispatcher the reason for the call. Perform such activities in the off-peak hours, such as early morning or late evening.

– Notes –

– Notes –

Summary of Connections



WARRANTY INFORMATION

For the latest warranty information, please go to:

www.honeywell.com/security/hsc/resources/wa

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